Commonwealth of Kentucky
Division for Air Quality

STATEMENT OF BASIS / SUMMARY

Conditional Major, Operating
Permit: F-20-010
ESCO Group LLC- Covington
3792 Lake Park Drive
Covington, KY 41017
September 16, 2020
Ibrahim AL-Burai, Reviewer

SOURCE ID:	21-117-00150
AGENCY INTEREST:	2457
ACTIVITY:	APE20200001

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SECTION 1 – SOURCE DESCRIPTION

SIC Code and description: 3531

Single Source Det. ☐ Yes ☒ No If Yes, Affiliated Source AI:

Source-wide Limit ☒ Yes ☐ No If Yes, See Section 4, Table A

28 Source Category ☐ Yes ☒ No If Yes, Category:

County: Kenton
Nonattainment Area ☒ N/A ☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ Ozone ☐ Lead
If yes, list Classification:

PTE* greater than 100 tpy for any criteria air pollutant ☒ Yes ☐ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☒ VOC

PTE* greater than 250 tpy for any criteria air pollutant ☐ Yes ☒ No
If yes, for what pollutant(s)?
☐ PM_{10} ☐ $PM_{2.5}$ ☐ CO ☐ NO_X ☐ SO_2 ☐ VOC

PTE* greater than 10 tpy for any single hazardous air pollutant (HAP) ☐ Yes ☒ No
If yes, list which pollutant(s):

PTE* greater than 25 tpy for combined HAP ☐ Yes ☒ No

*PTE does not include self-imposed emission limitations.

Description of Facility:
The Esco Group LLC - Covington is a manufacturer of construction machinery parts. The manufacturing process consists of a shot blast cabinet and welding operations for the finishing of implements prior to surface coating operations. The emissions from painting operation are volatile organic compounds (VOCs).

SECTION 2 – CURRENT APPLICATION AND EMISSION SUMMARY FORM

Permit Number: F-20-010 Activities: APE20200001

Received: February 28, 2020 Application Complete Date(s): June 4, 2020

Permit Action: ☐ Initial ☒ Renewal ☐ Significant Rev ☐ Minor Rev ☐ Administrative

Construction/Modification Requested? ☐Yes ☒No

Previous 502(b)(10) or Off-Permit Changes incorporated with this permit action ☒Yes ☐No

APE20190001: Addition of a second robotic welder and reformulation of BARIL coating.

Description of Action:
Renewal permit with no requested construction.

F-20-010 Emission Summary		
Pollutant	2019 Actual (tpy)	PTE F-20-010 (tpy)
CO	0.00	0.000
NO_X	0.00	0.000
PT	0.367	17.682
PM_{10}	0.367	17.682
$PM_{2.5}$	0.339	16.445
SO_2	0.00	0.000
VOC	7.412	107.113
Lead	0.00	0.000
Greenhouse Gases (GHGs)		
Carbon Dioxide	0.00	0.00
Methane	0.00	0.00
Nitrous Oxide	0.00	0.00
CO_2 Equivalent (CO_2e)	0.00	0.00
Hazardous Air Pollutants (HAPs)		
Total HAPs:	0.1799	3.763
Chromium, Total (as Cr)	0.000044	0.296
Cobalt, Total	0.000044	0.0004
Diethylene Glycol Monobutyl Ether	0.0479846	0.502
Ethylene Glycol	0.0081	0.084
Manganese	0.0138273	0.330
Methanol	0.0365750	0.751
Nickel, Total (as Ni)	0.0000435	0.296
Toluene	0.0731500	1.503

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS

Emission Unit 02 Arc Welding Stations				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	2.34 lb/hr	402 KAR 59:010, Section 3(2)	AP-42	70% PM control for building and process enclosure; Cartridge filters for robotic welders, 80% control efficiency.
PM	20% opacity	402 KAR 59:010, Section 3(1)a	N/A	Recordkeeping of weekly visual observations
Chromium, Cobalt, Manganese, Nickel.	20% opacity	40 CFR 63.11516(f)(6).	N/A	Graduated schedule of visual observations from Subpart XXXXXX

Initial Construction and/or Modification Date : See below

Process Description:
The emission point consists of 48 gas metal arc welding stations, 15 arc cutters and 2 robotic welding stations. The shield gas is 92% Argon: 8% Carbon dioxide. The emissions from the welding process are primarily from the consumption of the welding wire. The hourly consumption rate of welding wire is approximately 300 pounds from the 48 welding manual stations, 6.25 pounds per station, and approximately 50 pounds from the robotic station. The welding fumes are exhausted through facility roof vents and cross ventilation fans. No control equipment is utilized to control particulate emission from the manual welding stations. The robotic welding station has a cartridge filtering system that reduces particulate emissions by an estimated 80%. The construction of the manual welding stations was commenced between September, 1989 through October, 2015. The robotic welding station's construction commenced September, 2014 and May 2019.

Applicable Regulation:
401 KAR 59:010, New process operations.

401 KAR 63:002, Section 2(4)(vvvvv), 40 C.F.R. 63.11514 to 63.11523, Tables 1 to 2 (Subpart XXXXXX), *National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories.*

Comments:
The source is area source for HAP and is one of nine metal source categories listed in 40 C.F.R. 63 Subpart XXXXXX.

Emission Unit 03 Shot Blast Cabinet				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
PM	2.34 lb/hr	402 KAR 59:010, Section 3(2)	Engineering Estimate	Cartridge dust collector (99% PM control efficiency)
PM	20% opacity	402 KAR 59:010, Section 3(1)a	N/A	Recordkeeping of weekly visual observations

Initial Construction and/or Modification Date: 12/1999

Process Description:
The emission point consists of a Pangborn Shot Blast cabinet to finish steel implements prior to spraying coatings. The cabinet is an enclosed loop system. The heavy particulate falls through a grate in the floor of the cabinet and is conveyed by an auger to a collection bin for reuse. Fine particulate is aspirated through a high efficiency cartridge dust collector prior to exhaust to the atmosphere. The claimed efficiency of the cartridge dust collector is 99%.

Applicable Regulation:
401 KAR 59:010, *New process operations*

401 KAR 63:002, Section 2(4)(vvvvv), 40 C.F.R. 63.11514 to 63.11523, Tables 1 to 2 (Subpart XXXXXX), *National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories.*

Comments:
The emissions from abrasive blasting are calculated using an engineering estimation of 1.38 lbs PM emissions per ton blast material used.

Emission Unit 04 Paint Spray Booths				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
VOC	Source-wide 20 tpy of VOC emissions	To preclude 401KAR 59:225	Material Balance & MSDS	Recordkeeping, 12 month rolling total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & MSDS with 75% Transfer Efficiency	Exhaust filters, 95% C.E., Manufacturer's guarantee
Opacity	20%	401 KAR 59:010, Section 3(1)	N/A	Weekly visual observation

Emission Unit 04 Paint Spray Booths				
Diethylene Glycol Monobutyl Ether	0.3 tons during any consecutive 12 month period.	401 KAR 63:020	Material Balance & SDS	Recordkeeping, 12 month rolling total

Initial Construction Date: See below

Process Description:
K001-DeVeilbiss, a manual paint spray booth is utilized for surface coating operation to produce construction equipment implement such as back hoe buckets. Surface coating operation includes spraying of top coat, base coat/primer and clear coat on the steel construction equipment.
Maximum coating application rate: 3 gallons per hour
Control equipment: exhaust filters
Date commenced: September 1989.

K002-JBI, a manual paint spray booth is utilized for surface coating operation to produce construction equipment implement such as back hoe buckets. Surface coating operation includes spraying of top coat, base coat/primer and clear coat on the steel construction equipment.
Maximum coating application rate: 3 gallons per hour
Control equipment: exhaust filters
Date commenced: December 1999.

Applicable Regulations:
401 KAR 59:010, *New process operations*

401 KAR 63:020, Potentially hazardous matter or toxic substances

PRECLUDED REGULATIONS:

a. The source has accepted federally enforceable permit limits for VOC emissions to preclude the applicability of 401 KAR 52:020, *Title V Permits*.

b. The source also accepted source wide emissions limit for VOCs to preclude the applicability of 401 KAR 59:225, New miscellaneous Metal Parts and products surface coating operations.

Emission Unit 05 Area Spraying Operation				
Pollutant	**Emission Limit or Standard**	**Regulatory Basis for Emission Limit or Standard**	**Emission Factor Used and Basis**	**Compliance Method**
VOC	Source-wide 20 tpy of VOC emissions	To Preclude 401 KAR 59:225	Material Balance & SDS	Recordkeeping, 12 month rolling total
PM	2.34 lbs/hr	401 KAR 59:010, Section 3(2)	Material Balance & MSDS with 75% Transfer Efficiency	Building enclosure 70% C.E., Manufacturer's guarantee

Emission Unit 05 Area Spraying Operation				
Opacity	20%	401 KAR 59:010, Section 3(1)	N/A	Weekly visual observation
Diethylene Glycol Monobutyl Ether	0.3 tons during any consecutive 12 month period.	401 KAR 63:020	Material Balance & SDS	Recordkeeping, 12 month rolling total

Initial Construction Date: 06/2013

Process Description:
This emission point refers to spraying operations for the painting of construction implements which are too large for the spray booths. The implements are painted electrostatically or with an HVLP applicator.

Applicable Regulations:
401 KAR 59:010, *New process operations*

401 KAR 63:020, Potentially hazardous matter or toxic substances

PRECLUDED REGULATIONS:

a. The source has accepted federally enforceable permit limits for VOC emissions to preclude the applicability of 401 KAR 52:020, *Title V Permits*.

b. The source also accepted source wide emissions limit for VOCs to preclude the applicability of 401 KAR 59:225, New miscellaneous Metal Parts and products surface coating operations.

SECTION 3 – EMISSIONS, LIMITATIONS AND BASIS (CONTINUED)

Testing Requirements\Results

Emission Unit(s)	Control Device	Parameter	Regulatory Basis	Frequency	Test Method	Permit Limit	Test Result	Thruput and Operating Parameter(s) Established During Test	Activity Graybar	Date of last Compliance Testing
NA										

Footnotes:

SECTION 4 – SOURCE INFORMATION AND REQUIREMENTS

Table A - Group Requirements:

Emission and Operating Limit	Regulation	Emission Unit
20 tpy of VOCx emissions	To preclude the applicability of 401 KAR 59:225, New miscellaneous Metal Parts and products surface coating operations.	Source-wide
0.3 tons/year of Diethylene Glycol Monobutyl Ether	To meet requirements of 401 KAR 63:020	Source-wide

Table B - Summary of Applicable Regulations:

Applicable Regulations	Emission Unit
401 KAR 59:010, New process operations	EU 02, 03,04 &05
401 KAR 63:002, Section 2(4)(vvvvv), 40 C.F.R. 63.11514 to 63.11523, Tables 1 to 2 (Subpart XXXXXX), *National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories.*	EU 02 & 03
401 KAR 63:020, *Potentially hazardous matter or toxic substances.*	EU 04 & 05

Table C - Summary of Precluded Regulations:

Precluded Regulations	Emission Unit
401 KAR 59:225, New miscellaneous Metal Parts and products surface coating operations.	Source-wide

Table D - Summary of Non Applicable Regulations:

Non Applicable Regulations	Emission Unit
NA	

Air Toxic Analysis

401 KAR 63:020, *Potentially Hazardous Matter or Toxic Substances*

The Division for Air Quality (Division) has performed AERMOND on February 5, 2015 of potentially hazardous matter or toxic substances (Diethylene Glycol Monobutyl Ether) that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the source wide emissions of Diethylene Glycol Monobutyl Ether emissions shall not exceed 0.3 tpy to assure compliance with the requirements of 401 KAR 63:020.

Single Source Determination
N/A

SECTION 5 – PERMITTING HISTORY

Permit	Permit type	Activity#	Complete Date	Issuance Date	Summary of Action	PSD/Syn Minor
F-10-005	Renewal	APE20090001	1/27/2010	7/2/2010	Renewal	N/A
F-10-005 R1	Revision	APE20130001	6/25/2013	8/1/2013	Revision	N/A
F-15-001	Renewal	APE20140002	6/3/2015	8/28/2015	Renewal	N/A
F-15-001 R1	Admin Amend	APE20180002	9/27/2018	10/29/18	name/ownership change	N/A

SECTION 6 – PERMIT APPLICATION HISTORY

N/A

APPENDIX A – ABBREVIATIONS AND ACRONYMS

AAQS – Ambient Air Quality Standards
BACT – Best Available Control Technology
Btu – British thermal unit
CAM – Compliance Assurance Monitoring
CO – Carbon Monoxide
Division – Kentucky Division for Air Quality
ESP – Electrostatic Precipitator
GHG – Greenhouse Gas
HAP – Hazardous Air Pollutant
HF – Hydrogen Fluoride (Gaseous)
MSDS – Material Safety Data Sheets
mmHg – Millimeter of mercury column height
NAAQS – National Ambient Air Quality Standards
NESHAP – National Emissions Standards for Hazardous Air Pollutants
NO_x – Nitrogen Oxides
NSR – New Source Review
PM – Particulate Matter
PM_{10} – Particulate Matter equal to or smaller than 10 micrometers
$PM_{2.5}$ – Particulate Matter equal to or smaller than 2.5 micrometers
PSD – Prevention of Significant Deterioration
PTE – Potential to Emit
SO_2 – Sulfur Dioxide
TF – Total Fluoride (Particulate & Gaseous)
VOC – Volatile Organic Compounds